MATERNAL MORTALITY AND MORBIDITY IN TEXAS

Lisa M. Hollier, MD, MPH
Chair, DSHS Maternal Mortality and Morbidity Task Force
Study and review cases of pregnancy-related deaths, and trends in severe maternal morbidity

Determine the feasibility of the task force studying cases of severe maternal morbidity

Make recommendations to help reduce the incidence of pregnancy-related deaths and severe maternal morbidity in this state
Task Force findings

• Black women bear the greatest risk of maternal death
• Overdose from prescription drugs emerged as a leading cause of death within a year of delivery
• A majority of maternal deaths occur more than 42 days after delivery
• Data quality issues related to the death certificate make it difficult to identify a maternal or “obstetric” death
• Opportunities exist to screen and refer women with mental health and substance use disorders
• Notable variation in how maternal deaths are investigated
Changes in US Maternal Mortality

![Graph showing changes in US maternal mortality rates from 2000 to 2014. The rate starts at 18.2 per 100,000 live births in 2000 and increases to 22.8 per 100,000 live births in 2014. The slope of the trend line is 0.33.]
Changes in Texas Maternal Mortality
Black women bear the greatest risk for maternal death.
Leading Causes of Maternal Death in Texas

<table>
<thead>
<tr>
<th>Cause</th>
<th>Percent of all maternal deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac event</td>
<td>20.6</td>
</tr>
<tr>
<td>Drug overdose</td>
<td>11.6</td>
</tr>
<tr>
<td>Hypertension/eclampsia</td>
<td>11.1</td>
</tr>
<tr>
<td>Hemorrhage</td>
<td>9.0</td>
</tr>
<tr>
<td>Sepsis</td>
<td>9.0</td>
</tr>
<tr>
<td>Homicide</td>
<td>7.4</td>
</tr>
<tr>
<td>Suicide</td>
<td>5.3</td>
</tr>
</tbody>
</table>
2011 & 2012 Maternal Death Cohort: Characteristics

2011 Birth File
- Obesity — 23.2%
- First Trimester Prenatal Care — 62.4%
- Hypertension — 6.3%
- Diabetes — 4.9%

2012 & 2011 Death Cohort
- Obesity — 29.3%
- First Trimester Prenatal Care — 57.7%
- Hypertension — 19.0%
- Diabetes — 13.1%
Trends in Risk Factors

- Pre-pregnancy obesity increased 25% from 2005 to 2014 ($r = 0.95$)
- Hypertension increased 20% from 2005 to 2014 ($r = 0.79$)
- Diabetes increased 45% from 2005 to 2014 ($r = 0.91$)
Trends in Risk Factors

BLACK MOTHERS

- Pre-pregnancy obesity increased 21% from 2005 to 2014 ($r = 0.81$)
- Maternal Mortality Rate
- Hypertension increased 22% from 2005 to 2014 ($r = 0.79$)
- Diabetes increased 28% from 2005 to 2014 ($r = 0.69$)

Maternal Mortality Rate (per 100,000 live births)

Percentage of Pregnant Women (with risk factor)
Trends in Risk Factors

HISPANIC MOTHERS

- Pre-pregnancy obesity increased 31% from 2005 to 2014 ($r = 0.84$)
- Hypertension increased 25% from 2005 to 2014 ($r = 0.73$)
- Diabetes increased 56% from 2005 to 2014 ($r = 0.87$)

Maternal Mortality Rate
Trends in Risk Factors

**WHITE MOTHERS**

- **Pre-pregnancy obesity**: increased 19% from 2005 to 2014 ($r = 0.94$)
- **Maternal Mortality Rate**
- **Hypertension**: increased 16% from 2005 to 2014 ($r = 0.72$)
- **Diabetes**: increased 27% from 2005 to 2014 ($r = 0.64$)

- **Maternal Mortality Rate**
- **Obesity**
- **Diabetes**
- **Hypertension**
A majority of maternal deaths occur more than 42 days after delivery.
Summary of TF Recommendations

• Increase access to health services during the year after delivery and throughout the interconception period to improve continuity of care, enable effective care transitions, promote safe birth spacing, reduce maternal morbidity, and reduce the cost of care in the Medicaid program.

• Increase provider and community awareness of health inequities and implement programs that increase the ability of women to self-advocate.

• Increase screening for and referral to behavioral health services.
Summary of TF Recommendations

- Increase staffing resources in support of the task force.
- Promote best practices for improving the quality of maternal death reporting and investigation.
- Improve the quality of death certificate data.
Other Considerations

• Define severe maternal morbidity, develop processes to identify cases of maternal mortality and severe morbidity; and develop processes to review such cases at the hospital and/or perinatal region level.

• Implement safety bundles which have been successful in other hospital systems. Both severe hypertension (cause of death #3) and hemorrhage (cause of death #4) bundles exist and could be implemented www.safehealthcareforeverywoman.org

• Investigate new payment models (value-based or quality-based) to enhance the adoption of processes in hospitals
Other Considerations

• Level I and Level II hospitals could clearly define and implement guidelines for who is appropriately delivered at their facility vs. transferred to another facility.

• Work with caregivers to raise awareness of health inequities.

• Identify and disseminate best practices for transition of care at hospital discharge.

• Work with providers to enhance responsible practices for prescription of opiates for control of pain.

• Work with physicians who are certifying deaths to ensure that the pregnancy check box is being used correctly on death certificates.
Other Considerations

• Promote screening and referral of women with mental health and substance use needs [USPSTF has recommends screening at least once].

• Implement best practices to ensure that women receive needed care in the 6-8 weeks after delivery

• Identify best practices for transitions of care for women who lose/change insurance and must transition to another care provider after pregnancy.
Other Considerations

• Payers could evaluate payment mechanisms to promote screening and referral of women with mental health and substance use needs.

• Payers could ensure an adequate network of behavioral health providers, including programs for women with substance use disorders in pregnancy, both for urban and rural areas.
Other Considerations

- Counsel “every woman, every time” about her reproductive plans
- Help women “know your number, reduce your risk”
Contact information

• Lisa M. Hollier, MD, MPH
  • lmhollie@texaschildrens.org
  • Lisa.Hollier@tchp.us
  • Office:  832-828-1256